

WHAT IS CLAIMED AS NEW AND IS DESIRED TO BE SECURED BY LETTERS  
PATENT OF THE UNITED STATES IS:

1. A screening method comprising the steps of:

5 cutting off two corners facing each other of square cells on a square grid to form non-  
regular hexagonal cells;  
combining plural of said hexagonal cells into one combined single halftone cell; and  
setting threshold values for respective grids of said single halftone cell to express a  
halftone.

10 2. A screening method as defined in claim 1, further comprising the step of:

combining plural single halftone cells arranged on said square grid without any gaps  
therebetween; and

15 wherein a distance between adjacent grids to be started to set the threshold values for  
the halftone cells is made as equal as possible.

20 3. A screening method as defined in claim 1,

wherein in said setting step the set threshold values for each of said respective plural  
hexagonal cells constructing said single halftone cell are not the same.

25 4. A screening method as defined in claim 2,

wherein in said setting step the set threshold values for each of said respective plural  
hexagonal cells constructing said single halftone cell are not the same.

30 5. A screening method comprising the steps of:

cutting off two corners facing each other of square cells on a square grid to form non-  
regular hexagonal cells;

combining plural of said hexagonal cells into a combined single halftone cell; and  
setting respective different threshold values for respective grids of said single

halftone cell to express a halftone.

6. A screening method as defined in claim 5, further comprising the step of:

combining plural single halftone cells arranged on said square grid without any gaps  
therebetween; and

wherein a distance between adjacent grids to be started to set the threshold values for  
the halftone cells is made as equal as possible.

7. A screening method as defined in claim 5,

wherein in the setting step the set threshold values for each of said respective plural

~~hexagonal cells constructing said single halftone cell are not the same.~~

8. A screening method as defined in claim 6,

wherein in the setting step the set threshold values for each of said respective plural

A hexagonal cells constructing said single halftone cell are ~~not the~~ not the same.

5 9. A screening method comprising the steps of:

cutting off two corners facing each other of square cells on a square grid to form non-  
regular hexagonal cells;

combining plural of said hexagonal cells into a combined single halftone cell; and  
dividing an interior of said hexagonal cells to form respective sub-matrices.

10 10. A screening method as defined in claim 9,

wherein in said dividing step each sub-matrix is employed for an auxiliary dot.

11. A screening method as defined in claim 9,

wherein said sub-matrices in said hexagonal cells are not all of a same shape.

12. A screening method as defined in claim 10,

wherein said sub-matrices in said hexagonal cells are not all of a same shape.

13. A screening apparatus comprising:

hexagonal cell forming means for cutting off two corners facing each other of square  
cells on a square grid to form non-regular hexagonal cells;

halftone cell forming means for combining plural of said hexagonal cells into a  
combined single halftone cell; and

threshold value setting means for setting threshold values for respective grids of said  
single halftone cell to express a halftone.

14. A screening apparatus as defined in claim 13, further comprising:

means for combining plural of said halftone cells arranged on said square grid

25 without any gaps therebetween; and

wherein a distance between adjacent grids to be started to set the threshold values for  
the halftone cells is made as equal as possible.

15. A screening apparatus as defined in claim 13,

wherein in the threshold value setting means the set threshold values for each of said

30 respective plural hexagonal cells constructing said single halftone cell are not the same.

16. A screening apparatus as defined in claim 14,

wherein in the threshold value setting means the ~~set~~ threshold values for each of said

~~respective plural hexagonal cells constructing said single halftone cell are not the same.~~

17. A screening apparatus comprising:

hexagonal cell forming means for cutting off two corners facing each other of square cells on a square grid to form non-regular hexagonal cells;

5 halftone cell forming means for combining plural of said hexagonal cells into a combined single halftone cell; and

threshold values setting means for setting respective different threshold values to the respective grids of said single halftone cell to express a halftone.

18. A screening apparatus as defined in claim 17, further comprising:

means for combining plural of said halftone cells arranged on said square grid without any gaps therebetween; and

wherein a distance between adjacent grids to be started to set the threshold values for the halftone cells is made as equal as possible.

19. A screening apparatus as defined in claim 17,

wherein in the threshold value setting means the set threshold values for each of said respective plural hexagonal cells constructing said single halftone cell are not the same.

20. A screening apparatus as defined in claim 18,

wherein in the threshold value setting means the set threshold values for each of said respective plural hexagonal cells constructing said single halftone cell are not the same.

21. A screening apparatus comprising:

hexagonal cell forming means for cutting off two corners facing each other of square cells on a square grid to form non-regular hexagonal cells;

halftone cell forming means for combining plural of said hexagonal cells into a combined single halftone cell; and

25 sub-matrix forming means for dividing an interior of said hexagonal cells to form sub-matrices.

22. A screening apparatus as defined in claim 21,

wherein each sub-matrix is employed for an auxiliary dot.

23. A screening apparatus as defined in claim 21,

wherein said sub-matrices in said hexagonal cells are not all of a same shape.

30 24. A screening apparatus as defined in claim 22,

wherein said sub-matrices in said hexagonal cells are not all of a same shape.

25. A screening method comprising the steps of:

cutting off two corners facing each other of square cells on a square grid to form non-regular hexagonal cells; and

combining plural of said hexagonal cells into a combined single halftone cell.

26. A screening apparatus comprising:

hexagonal cell forming means for cutting off two corners facing each other of square cells on a square grid to form non-regular hexagonal cells; and

halftone cell forming means for combining plural of said hexagonal cells into a combined single halftone cell.

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